DCM
File Pot Creek

REPORT

TO: Mr. Hubert C. Lambert
From: Robert F. Guy
Subject: Pot Creek Distribution
Date: July 23, 1964

Reference is made to our conversation of July 21 and 22, regarding the methods of calculating the amount of water to be distributed to Mr. Zelph Calder.

Mr. Guy of this office and Mr. Dayl Webb of the U.S.G.S. analyzed the recorder chart taken from the U.S.G.S. Gage located above the Matt Warner Reservoir. The analysis was made on an hourly basis so as to compensate for the diurnal fluctation of the flow. It was noted that there were only a few days in the latter part of April and the early part of May where the diurnal curve was such that the daily average discharge could be questioned with reference to the 5.0 cfs dividing line between the Calder and Allen Rights in April and 11.0 cfs dividing line between the Allen, Colorado and Calder rights in May and June.

During the latter part of April and early part of May, the chart showed many sharp peaks and troughs throughout each 24-hour period, indicating extreme variations in temperature. However, as the season progressed the curve gradually flattened out so that during the latter part of May and June the curve was almost a straight line.

Find attached, a table comparing the (1) hourly diurnal fluctuations method of computing the amount of water belonging to Zelph Calder and (2) the method using the daily average discharge.

You will note that the difference between the two methods amounted to only 2.82 acre feet in favor of the first method.

Under different conditions the difference could just as easily go the other way. It appears that the method using the daily average would accomplish the same purpose with much less time and effort; and discharge data from the U.S.G.S. would be available at an earlier date.

From Zelph Calder.

Started 101.2 ended 99.01

1.29

April 6 - 101.6
June 9 - 101.2
End - 100.31

Zelph S Calder - Matt Warner Reservoir Eph C-5
Area - Capacity Table

Bottom Contour	Res. Gge	Area Ac.	Increment	Storage Ac Ft	
82.4	0.0	0			
85.4	3.6	4.5	5.8	5.8	
86.0	3.6	8.6	6.6	12.4	
87.0	4.6	12.7	10.6	23.0	
88.0	5.6	16.8	14.8	37.8	
89.0	6.6	20.9	18.8	56.6	
90.0	7.6	25.0	23.0	79.6	
91.0	8.6	40.25	32.12	111.72	91.6 = 119.4
92.0	9.6	55.50	47.88	159.6	
93.0	10.6	70.75	63.12	222.72	
94.0	11.6	86.0	78.38	301.10	
95	12.6	101.25	93.62	394.72	
96	13.6	116.5	101.88	603.60	
97	14.6	131.75	124.12	827.72	
98	15.6	147.0	139.99	967.10	
99	16.6	162.25	153.62	921.72	
100	17.6	177.5	169.88	1091.60	
101	18.6	190.0	183.75	1275.35	
102	19.6	202.5	196.25	1471.6	
103	20.6	215.0	208.75	1680.35	
104	21.6	227.5	221.25	1901.6	
105	22.6	240.0	233.75	2135.35	
106	23.6	261.5	250.75	2386.1	
107	24.6	283.0	272.25	2658.35	
108	25.6	304.5	293.75	2952.10	